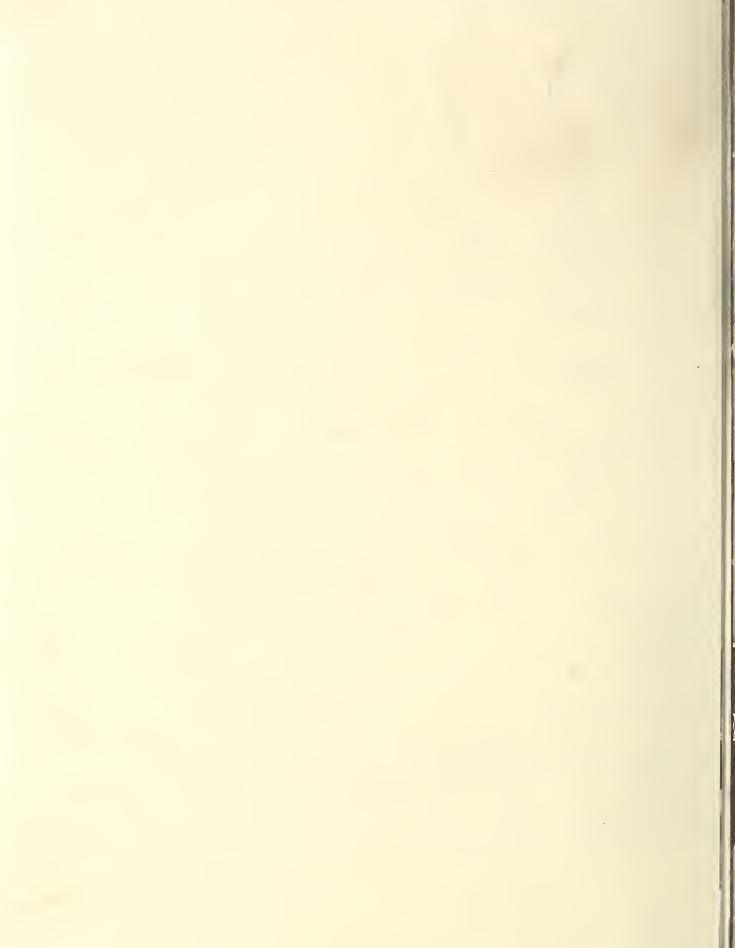
Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.





This Month

Articles on visual aids flowed into the editorial office in such numbers that it was difficult to make a selection. When all 24 pages were filled there were still some left over. The articles printed in the following pages were chosen for variety in methods used, and subject matter illustrated, as well as to include representation from all parts of the country. Articles crowded ont this month will appear in the next few issues and include some of the best.

One of the Authors

• T. R. Robb writes in his article that you can evaluate an agent's success by the visual aids he uses. It seems to work out in the case of George Mullendore, author of the item on page 114, who was recently designated "Most Useful Citizen of Pike County" and presented with a silver loving cup by the local newspaper.

Next Month

• "Don't Fire Your Wife" is the intriguing title of Mrs. Doris Anderson's article on JMT in New Jersey. A mass demonstration idea will be described as it worked out in Lycoming County, Pa., in cooperation with the county veterans' training program. A forward-looking Oregon agent will tell of his nitrogen fertilizer demonstrations. Minnesota will report on a talent show put on by the young men and women to help improve hospital facilities. Connecticut will give the results of its "Seeds to Europe" campaign. Iowa's Ruth L. Foster, home demonstration agent in Washington County, will recount the adventures of the local women on a good-will tour to neighboring States.

Visual Aids Held Over

• Among the good things to be offered are Agent J. Roland Parker's account of local color movies in Douglas County, Oreg.; Fred Huffine's and Ira J. Hollar's experiences in Oklahoma.

In this issue -

| To Motivate, Illustrate F. H. Shuman99 |
|---|
| Told With a Penny Peep Show - Dean C. Wolf |
| Pass the Camera Please M. G. Huber 101 |
| My Best Exhibit C. L. Messer, Jr |
| Visnal Aids—Silent Salesmen L. L. Longsdorf |
| Are Visual Aids Too Expensive? Russell M. Smith, J. I. Swedberg, Royal Anderson 104 |
| Roadside Signs Show the Way S. D. Truitt |
| Motion Pictures Have Dual Role Guy L. Robbins |
| Horticulture With Eye Appeal R. O. Monosmith |



OFFICIAL ORGAN OF THE COOPERATIVE EXTENSION SERVICE U. S. DEPARTMENT OF AGRICULTURE WASHINGTON 25, D. C.

VOL. 20

JUNE 1949

NO. 6

in

In

bla

bu

Wh

rac

offi

to 1

is in

Th

agai

don'

I tel

so I

out

Was

furre

W

drop

terra

I've sa

I wou

seen

Prepared in the Division of Extension Information
LESTER A. SCHLUP, Chief
CLARA BAILEY ACKERMAN, Editor
DOROTHY L. BIGELOW, Associate Editor
GERTRUDE L. POWER, Art Editor

Published monthly by direction of the Secretary of Agriculture as administrative information required for the proper transaction of the public business. The printing of this publication has been approved by the Director of the Bureau of the Budget (July 9, 1948). The Review is issued free by law to workers engaged in extension activities. Others may obtain copies from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 10 cents per copy or by subscription at \$0.75 a year, domestic, and \$1.15 foreign.

To Motivate, ILLUSTRATE

F. H. SHUMAN, County Agent, Whiteside County, Ill.

THE big reason why I started using pictures to illustrate superior extension practices was because a good newspaper friend of mine told me how dumb I was not to avail myself of the most effective method known in the field of education. Said he: "What you read or hear you may doubt, but what you see with your own eyes you never doubt."

About the same time, Joe Blink, a 65-year-old farmer, gave me my most impressive lesson in visual education. In June 1937, our county was blanketed with a 4-inch rain between midnight and 4 a.m. Joe lived on a loessial-type soil which goes into solution like sugar into coffee. He had built the first terraces in the county and was the first pioneer to contour his corn. The morning of the deluge Joe popped out of bed and hurriedly walked to his contoured cornfield which had just been plowed once. He raced back to the house, jumped into his car, and drove 12 miles to my office, where he was waiting for the door to open. "You've got to come to my farm today," Joe exclaimed. "I can't, Joe, I've got two meetings," I replied. "You've got to," repeated Joe. I again replied, "Why, Joe, that is impossible. Just tell me about it." This unrelenting conservationist again said, "You've got to. If you don't come, you'll never believe what I tell you-you have to see it." And so I did! For 12 miles on the way out to Joe's, cornfield after cornfield was gullied to the bottom of the

When we got to Joe's field he said: "Look, Frank, Look! Not one single drop of water or soil has gone out the terrace outlet or has left the field. I've saved it all." And Joe was right. I wouldn't have believed it if I hadn't seen it! That fall Joe's contoured field made 119 bushels of corn per

acre, which, at that time (in 1937), was a record yield even on a level field.

"I'll never be guilty again of using weather as a crutch for a low yield," was

Joe's parting statement.

Extension work has grown in Whiteside County so that we require a full-time youth assistant and also a full-time soils assistant. All three of us carry black-and-white cameras. We also have two cameras for color shots. Black and white and also color are essential in carrying out effective extension work. The blackand-white pictures are used in the monthly publication, using enamel paper and a 100-line screen so as to insure detail. We also send our best pictures to all newspapers. They are hungry for good stories with pictures. We use pictures with every good story. Again I say: What you hear or read you may doubt, but what you see you never doubt. Pictures are one of the "musts" in motivating people to action.

In motivating people to action there is no substitute for colored slides. Color is even better than black-and-white pictures. In fact, it has no equal. I have proved it to my own satisfaction in our soil work here. In the past 4½ years, soil samples have been brought to the laboratory by 2,119 farmers for limestone, phosphorus, and potash determinations. In that period I have held 207 soil clinics. Hunger signs in plants and the response to plant-food applications are all shown in color, with a detailed description accompanying the picture. This volume would never have been possible without the use of pictures. If you want



to motivate—if you want to activate, you must illustrate. Colored slides have no equal in the educational field.

In early July 1948, Glenn Nelson, who lived on a sandy loam soil, came to the office and said: "I wish you could see my corn where I put on a 3–18–9 fertilizer as compared with a 0–0–21. This 3–18–9 is great stuff. It looks like a sure bet."

Glenn had tested his soil in our soil laboratory, and I knew it tested high in phosphorus and badly needed potash. The corn receiving the 3–18–9 was at least a foot taller on July 4. It looked like a sure bet. However, I cautioned Glenn not to shuck his corn in early July but to wait until the harvest.

As the corn matured, the corn which appeared stunted on July 4 grew normally and continued to show a darkgreen color. The 3–18–9 or starter fertilizer provided a fine early start but failed to provide enough potash for a "round trip ticket."

The so-called stunted corn not only made 10 more bushels to the acre but far surpassed the early stimulated corn in quality.

The story is a good one. But with the pictures to illustrate, the effectiveness of the story is, in my opinion, more than doubled—yes, even trebled.

In extension work it has long been said: if we are to motivate people to action, we must illustrate. I say again: Pictures are one of the musts in effectively motivating people to action.

Extension Story Told With PENNY PEEP SHOW

DEAN C. WOLF, Assistant Extension Editor, Iowa

EXTENSION dairymen at Iowa State College have given an old idea a new twist to make it easier to teach farm folks how to produce high-quality milk.

The old idea is the penny arcade machine, time-proved as an appealer to human curiosity. The new twist is replacing the picture stories commonly found on the machines with the story of producing high-quality milk and cream on the farm.

And the idea is paying off as a teaching aid. The machine was given its first real test this winter in conjunction with 37 better milking clinics held throughout the State. More than 3,000 farmers deposited a penny in the machine and watched the visual story about producing highquality milk. The machine was turned on for about 3 hours during each clinic, with an average of 85 persons viewing the picture series. Folks kept the machine pretty busy, as is evidenced by the fact that in the 180 minutes 85 persons on the average viewed the pictures, which required 75 seconds to run through.

A. W. Rudnick was responsible for the new idea in presenting the extension story. The idea came out of a clear sky one day as he thought back to the time when he was a youngster. He recalled the tremendous appeal the then-popular penny arcade machines had. He wondered why in the world he couldn't sell better dairying with such a technique.

On inquiry through a theatrical agency operated by a friend, Rudnick found that some penny arcade machines were available in Des Moines.

Rudnick bought one machine for \$5, made a handle to wind it up and a key to lock the money drawer, and set about getting a picture story.

For the story, Rudnick chose the quality problem, which is one of the most difficult programs to sell to the farmer. The plot of the story is cen-

tered on a young farm couple. The opening scene shows the housewife cleaning out a bureau drawer after being married 3 years. At the bottom of the drawer she discovers three red tags. Those tags brought back memories.

She recalled how just 3 years ago she and John were married and started dairying. She remembered how they both thought their parents were just a little old-fashioned about milk handling. They decided to take a few short cuts.

That's where the young couple ran into trouble. One morning the milk hauler came to the door and asked the couple to come out to the truck. Four cans of milk were on the ground. On each can was a red tag with the word "REJECT."

Both the young bride and John decided that their folks should never find out about their sad mistake. They both felt sheepish—the cuts didn't work. That's "The Secret of a Farmer's Bride."

But Mary recalls that they didn't go along producing poor-quality milk. They talked the situation over with their fieldman and started improving their dairying methods.

The couple bought a low-cost heater to provide hot water at the barn. Then they got an automatic water heater which saved time as well as helped them to keep equipment spotlessly clean. It also provided handy hot water for washing udders, which helped them produce more and cleaner milk. Mary washed each can again just before using. Then the couple bought a dome strainer and

used large pads to get rid of sediment in milk. They discovered that the cooling-tank cover needed tightening to keep dust particles ever present in the air from getting into the milk. Cans to be opened on the farm were protected by plastic hoods. Parchment paper was placed on full cans on their way to the plant.

"Yes," Mary sighed, "we learned our lesson—for the price of four cans of milk."

Each of these points is made clear with a photograph and a short caption. There are three frames in the machine; and, like all stereoscopes, it requires two identical pictures in each frame. These must join at the exact middle of the frame to show a clear scene.

The most difficult job is to cut down the captions to the point where they can be read in 6 seconds. This is about as slow as the machine can operate without special attachments on the governor. Another reason for not wanting to slow it down beyond that point is that it would drag and consume too much time between pictures, thus breaking the continuity of the story.

Even more important is the "headline." In the case of the penny arcade machine, I refer to the title of the story of the machine. This title must make people curious enough to want to see the pictures. "The Secret of a Farmer's Bride" has proved to have the qualities that will pull a farmer over to the machine and nudge him until he drops in a penny.

Of course, a good story must fol-

(Continued on page 116)

Pass the Camera, Please

M. G. HUBER, Agricultural Engineering Specialist, Oregon

OREGON farmers have the "show me" attitude. They'll sit politely and listen to someone expound new ideas and methods for doing a better job of farming. But I have learned that it's visible proof that convinces them. The experience of the Oregon Extension Service with a grass silage program, which is under way at the moment, is a good example of where "seeing is believing."

By 1945, the word-of-mouth methods for pushing grass silage had succeeded in getting it fairly well established in two counties, but general acceptance was slow in other sections of the State.

The usual stumbling block ran something like this: "What equipment is needed?" "Isn't it rather hard work?" On that first question, just try to give a comprehensive oral picture of a forage field chopper. Or, how would you describe a low-cost, stave silo, to be constructed without scaffolding, unless you have pictures? The question of hard work, meanwhile, is something a person wants to answer for himself.

Of course, farmers may view equipment or actual field operations if machines are in operation close by. But travel is costly as well as time-consuming. So, we took grass silage to the farmers by the use of pictures, movie and still, and through the use of models.

A movie was made of all common equipment and methods used to harvest and store grass silage. Colored slides as well as black-and-white shots were taken.

As a side light, it might be mentioned that what is normally bad picture-taking weather really paid off in our film on grass silage making. In western Oregon, much of the first hay cutting, year in and year out, is spoiled, or at least damaged, by late spring rains.

But you should see farmers sit up and take notice when they view grass silage equipment in our movie operating in the rain! After having shown the picture to many audiences during the past 4 years, I am positive that the first film would not have been nearly as effective had we waited for a "photographer's day" of bright sunshine. Of course, we did expose a portion of film on days when the sun was out to show grass sileage making on both good and bad days.

The field of agricultural engineering, moreover, lends itself particularly well to the use of visual aids—perhaps better than many other fields in extension work. How else but through photography, charts, or models can you show equipment methods, practices, buildings, and building plans when the real thing is not available?

A case in point is bringing a State of Maine silo to Oregon. Particularly fitted for our grass silage needs is the wooden stave, which was used rather extensively in Maine. One particular advantage this silo has is the fact that it can be constructed with absolutely no staging or scaffolding.

We showed Oregon farmers the silo through a series of 16 silo demonstration days during 1948. These 2-day affairs were well attended, and we demonstrated every step from framing to tightening the hoops after the job was finished.

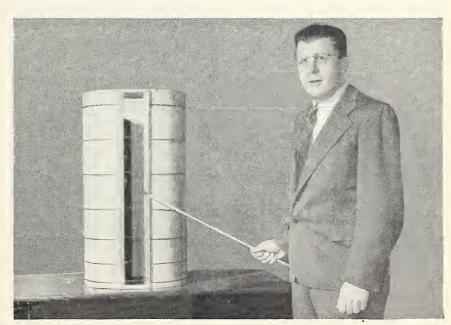
The demonstrations, as well as showings of the grass silage picture, have brought grass silage before Oregon farm people in a way they understand and can appreciate.

I have also turned the camera on subjects other than grass silage. For example, last year a sagebrush-clearing demonstration was held in a southern Oregon county where old methods and new for eradicating sagebrush were shown.

It's obviously much easier to show the sagebrush eradication movie than it is to attempt to repeat the demonstration in one-third of the counties in the State.

Another picture on a mechanical prune shaker has done much to eliminate the old, tiresome process of hand-shaking.

Whether you are out to get rid of sagebrush, shake prune trees, or build silos, it's easier to do that job by appealing to the eye as well as the ear. So, pass the camera, please.



Engineer Huber demonstrated the art of making the Maine silos so effectively with this model that county agents in five Oregon eounties went ahead and helped farmers build them.

My Best Exhibit

C. L. MESSER, JR., County Agricultural Agent, Cayuga County, N. Y.

PROBABLY the most successful exhibit I had anything to do with was the big tri-county potato marketing exhibit at the New York State Fair at Syracuse 10 years ago.

That, however, was just one of a long line of exhibits at State, county, and local fairs which began during my first year as a county agricultural agent, back in 1924.

Many of my exhibits were solo affairs, working entirely on my own, whereas some were put up with agents from one or two other counties cooperating. The earliest exhibits were mostly of the "Chamber of Commerce" type, that is, attempts to show all the varied agricultural products of the county, weighting the products shown in proportion to their census value in the county's economy.

I liked best those exhibits in which some other agent helped. As we gained experience we found that displays which had the greatest consumer appeal were best—and they really made us feel as if we were actually making progress or, rather, making a more constructive contribution to the whole fair, as probably at least half the visitors were city and town folk—in reality, the ultimate consumer.

"Beamed" to Consumer Too

With this in view we decided to "beam"—to use a more recent term—our exhibits then, to both producer and consumer, and to teach a lesson to both groups.

Our 1939 exhibit, planned and set up by two other county agricultural agents from the State, besides myself, showed the producer how his potatoes, if they are of good enough quality, could be sized, graded, and packed to meet the requirements of a special Empire State Quality label, based on U. S. Grades.

The exhibit also showed the consumers who visited the fair the various processes necessary in turning out

a package of high-quality potatoes, and we felt that it made them appreciate more the care and extra labor necessarily reflected somewhat in the cost.

The exhibit itself occupied a space about 75 feet long by 20 to 25 feet wide. It consisted of commercial grading, brushing, and packing machinery lent by the manufacturers. Large supplies of potatoes, freshly dug, were trucked to the fair grounds and to the exhibit every morning, with the operations being carried on throughout the day. In addition to several young men employed especially for the job, a Federal-State food products inspector closely supervised the operations for quality control and issued regular inspection certificates on each lot packed.

The potatoes were packed in new,



As an extra publicity feature, "King Spud," one of the county agents in a large papier-maché potato over his head and body walked about the fair grounds calling attention to the potato exhibit. In one hand he carried one of the packed 15-pound sacks,

white, attractively labeled, 15-pound paper sacks and, during and after State Fair Week, were on sale in two large retail food chains, plus a few independent fruit and vegetable stores within a radius of from 25 to 75 miles.

Although there was plenty of activity going on at the exhibit during the fair, as much and more energy and thought were expended by the three county agents long before the fair in making the arrangements and in thinking through the details. First, a machinery manufacturer had to be found who would furnish the machinery. Then, a farmer who would have enough potatoes, mature enough to dig early (the fair was held during the last week in August) could furnish and deliver a constant supply to keep the exhibit in constant activity. Of course, the cooperation of the fair officials had to be obtained, and probably the biggest job was to sell the chain store buyers on the idea of merchandizing the 15-pound sacks of potatoes and on the advertising value of the "State Fair Brand."

Other jobs that had to be arranged for in advance were the labor force, the signs used in the exhibit, suitable uniform smocks for the workers to wear to protect their clothing, and, of course, advance publicity.

The smocks worn by the men had the words "Farm Bureau" embroidered on the back, because it was through this organization that the purchase and sales of potatoes were made. The smocks were of a light tan color—resembling closely the color of the potatoes—with the lettering in dark brown.

lib

jec

Th

I feel that this exhibit was a distinct contribution to potato marketing in that it convinced consumers that really good potatoes, carefully handled and graded, are put in consumers' packages. It also showed producers that care is necessary in putting up consumer packages.

Visual Aids-Silent Salesmen

L. L. LONGSDORF, Extension Editor and Program Director, Kansas

WERE we in the investment business and we could get 15 to 20 percent interest, that would be good returns. Of course we'd be stopped by regulations from reaping such a harvest.

But there is no rule that says we can't use that measurement of accomplishment in our educational work. If that interest rate is applied to visual instruction, the intake of knowledge by the visual method runs between 15 and 20 percent. The lecture method rates about 5 percent.

The importance of visualization of county extension work needs to be thoroughly evaluated. Likewise, it needs study on a State basis, for without adequate appreciation at the central office, it can definitely lag in the counties.

Our agents tackle with enthusiasm and seriousness their assignments in the county, but the majority of them have had little, if any, training in "what clicks in visual instruction."

Pros and Cons of Movies

Take motion pictures as an illustration. They have their place as an audience builder, as an idea promoter, as an instructional medium. But it takes equipment to show sound films. Once projectors are acquired, then comes the need for the right kind of films that will meet the best standards of showmanship, color, and education, and that will give authentic information. County agents may resort to pooled orders through commercial film libraries at a small rental fee per film: they may borrow films from adjoining States, running the risk that the subject matter may not be applicable. They may seek aid from their landgrant college library, always limited in number, variety of subject matter, and quality of films, some of which are provided by the Department of Agriculture and many by loans from cooperating commercial concerns. Sources of suitable subject matter films are limited, to say the least.

Budgetary provision, sufficiently large to purchase an adequate film library at State levels for loan to agents, should be a great boon to film-seeking agents. Agents want them. They can and will use them to advantage.

For economy and ease in operation, upkeep, and getting the job done, there is the time-tried 2- by 2-inch slide method. Many agents are using these slides with success. By using a miniature camera, color films, and a projector, they have an ideal method for localization of the extension story. Here is where most agents would welcome helpful ideas on taking better pictures, arranging them in story sequence, and making the best use of them in their teaching work. A subject-matter source library of 2- by 2-inch slides, carrying the lecture guide sheet, for loan to agents should find a valuable place in the visual aids section of the central office of each State. Such a library should be kept modern, lectures properly edited and remodeled at all times to meet changing subject matter. These sets make for localization of subject matter by the agents who can readily substitute their own slides for those not applicable to a county.

Subject-Matter Slides Are Useful

Every county office could use sets of subject-matter slides, preferably in color. Similar sets, in black and white, 8- by 10-inch prints or larger, make good looking illustrations when working with small groups of local leaders.

Display racks for bulletins are but another visual aid. They help sell printed literature. An attractive county office display, readily visible and handy to the visitor, with proper over-head lighting, tells what is available.

Then this bulletin rack idea may be carried to banks, libraries, business houses, community centers, and other places where farm and home people gather.

Transparencies in color, for office or portable use, and properly lighted are silent salesmen. Even the small 2 by 2 slides, in color, attractively arranged where the "waiting customer" can view them, will stimulate the progressive mind to plan for improvement in farm and home methods.

Enlarged photographs, of easy carrying size, are salesmen, too.

Many agents make use of the visualization method through their local newspapers. A series of subject matter methods planned on a monthly or weekly basis will do a share in telling the extension story. A cut costing \$5 to \$10 in a small weekly will visualize a single method for about 1,000 families. It is a sales method for reaching both country and town audiences.

Exhibits, if attractively made with the commercial technique applied to them, are extension program sellers.

Turn On the Floodlights

Every stage production is staged under lights. We wouldn't think of running a stage show in the dark. The most successful county agents and extension workers floodlight their exhibits and their demonstration. The cost, where electricity is available, is negligible. For \$10 to \$12, portable floodlights on tripods can be obtained. That's visualization.

Visualizing extension work is neither an easy nor a cheap method. Provision should be made for time out to visualize, with adequate budget to do a commendable job of it.

County agents and extension workers have a truly scientific story to tell. The scientists have ferreted out the secrets. It is our job to promote the scientists' findings for the benefit of our people. Extensioners can do it more efficiently and effectively by "taking away the basket from over the candle" so the light will shine upon their work with visual aids as the tool.

Are Visual Aids Too Expensive?

Agents From Minnesota and Pennsylvania Answer the Question

RY using facilities on hand and purchasing moderately priced equipment, the home demonstration agent and I have been able to use color slides at an average cost of 44 cents per meeting in Forest County.

In 1938, 1 year after color film in 35 mm. size for miniature cameras was introduced, the Agri-

cultural Extension Association, Tionesta, started their new visual instruction program by purchasing a \$25 camera and \$5 worth of accessories.

For \$13, the standard lantern slide projector owned by the association was adapted to show the smaller slide. A beaded surface tripod screen was purchased for \$18, and later an exposure meter at a cost of \$21.

In 1943, \$68 was invested in the display-type file cabinet with a capacity of 1,170 slides. Film and miscellaneous supplies cost about \$24 per year. The total equipment and supply cost for the past 11 years was about \$480. This investment produced more than 2,200 2- by 2-inch color slides.

A different set of slides is usually made for each meeting by adding or substituting pictures taken in that respective community. This is easily done with the help of the visual-type file where 90 slides can be seen at one time when a panel is pulled out and light is provided back of it.

An illuminator is the most recent piece of equipment added to the extension association's visual aids inventory. It is a ventilated boxlike structure with a white interior containing a 60-watt ordinary light bulb. The opal glass front of the illuminator holds 25 slides.

The illuminator filled with color slides has been used as the central feature of educational exhibits in Forest County fairs and National 4-H Club Week window displays. It also has displayed slides to small groups during office calls or meet-









J. I. Swedberg

ings. For convenience of the person viewing the slides, a magnifying glass is attached to the illuminator.

Royal K. Anderson

A silent motion picture projector is used to show films that are lent in about 10 percent of the meetings.

In recent years more sound films are shown in some of the county's larger meetings. The projector is rented at a nominal fee from a local

However, under Forest County conditions, 2- by 2-inch color slides liekly will continue to be No. 1 visual aid .-Russell M. Smith, County Agent, Forest County, Pa.

PICTURES make extension teaching more effective, and extension work must compete with highclass advertising to attract followers. A county agent, in going to a meeting, is selling new ideas. An illustrated type of teaching capitalizes on the fancy of every extension audience. The county agent is noted as a clearinghouse of ideas. A good picture flashed on the screen brings home the idea as a practical demonstration on the particular subject; it is concrete evidence that clinches one's statements. The cost of taking pictures with the 35 mm, camera is reasonable as the price includes the processing of pictures, in color, into usable 2- by 2inch slides. I find that the average cost of all my pictures runs about 18 cents a slide for outdoor pictures and 33 cents for indoor pictures. I carry my camera with me on all trips. When taking a picture I check as to

- 1. Will it appeal to others?
 - 2. Is it an unusual situation?
 - 3. Will the showing of this picture tell a story?

ta

if

C

11

- 4. Does it illustrate an idea?
- 5. Will a series of pictures tell a complete story?

I also find that these pictures make a fine record of accomplishment over the period of years.-Royal K. Anderson, County Agent, Lake of the Woods County, Minn.

O visual aids cost too much in time and money? I would say "no." At any rate, visual aids that are inexpensive are available, and their value should be appraised as well as their cost.

To begin with, why visual aids? The answer is, I think, that we're eyeminded. What we see makes more of an impression than what we hear. Suppose you want to discuss oriental poppies in a meeting. However, it's wintertime, and you have no poppy. In that case, a color shot of a poppy would fill the bill and a lot better than trying to describe it.

Speaking of pictures, we should be able to get a still color shot for 15 cents to 25 cents. Mounting in glass would add some. Also wastage in taking. Let's say that the cost would be around 30 cents each. Also assume that 25 slides will cover a subject. That's \$7.50. Chances are you'll show them to 100 people. Only 7½ cents each. And you'll probably reach 500 with your set.

Prints for newspaper work are economical, too. We can use them in our newspaper stories. Suppose your newspaper has a circulation of 4,000 and that 10 percent of the subscribers read your story. You reach 400 people. Well, you figure from there. Cheap on a per capita basis. Also, without the picture not so many would read the story.-J. I. Swedberg, County Agent, Redwood County, Minn.

The Common Chart Is Still Useful

F. H. ERNST, Extension Specialist in Illustrative Materials, California

OF all visual aids, the oldest and still the most widely used is the cloth or paper chart. One of the reasons why charts play such an important part in extension teaching in California is that the late Director B. H. Crocheron, during his 34 years of service, stressed the use of charts. Mr. Crocheron himself was an expert in using charts to vitalize statistics and extension information so that it became interesting when used in a lecture. His ability to use charts so effectively was emphasized to all who worked for and with him. By his very example, as well as by his urging, charts became important in California extension teaching.

In 1948 a total of 221 new charts were prepared in the State office. Charts are used by all of the specialists because charts lend themselves to continuity in the promotion of extension projects over a period of years.

Charts are often summaries of result data of fertilizer or variety trials, or they may consist of bars, pies, lines, maps, circles, or pictographs of cost records or of economic studies, or they may pertain to irrigation practices or any of the other many extension subjects that may be under discussion. Every county office is equipped with chart-making materials such as a chart board, stamp letters, inks, pens, poster paints and brushes, and chart cloth and chart paper. By comparison with the State office, county extension offices usually require only a small number of charts each year, and the charts are therefore made with stenographic help. It has been found good practice for the county extension agent to prepare a preliminary chart outline on $8\frac{1}{2}$ by 11-inch paper. Coordinate paper is usually used, especially if the chart involves bars or lines that must be drawn to scale. Material presented in chart form must be well organized. The tendency is to make the chart too complicated to picture more than one comparison or one idea. However, most county extension agents soon become reasonably proficient in the preparation of charts and in their use.

Where experienced county help is not available to make charts some county agents are using the blackboard chart for small meetings. This type of chart can be made by painting sign cloth with blackboard slating, a Scotch way of using up old charts. The blackboard chart serves as a blackboard and takes chalk quite well. Material may be sketched or printed upon it with chalk. Usually the blackboard is placed flat on a table when summaries or graphs are drawn upon it. This type of chart can then be used alone or with others in a series of charts.

Sign cloth and muslin have been the common materials used in chart making. However, sign cloth and muslin are both expensive. Uncoated blueprint paper has been found satisfactory for charts that need to be used only once or twice, and this type of paper is certainly superior to butcher or wrapping paper. More recently a 30-pound 100-percent rag paper has become available. It is quite tough, of excellent white color, and is available in several widths. Paper charts may be used repeatedly when reinforced at the edges with a suitable soft binding tape.

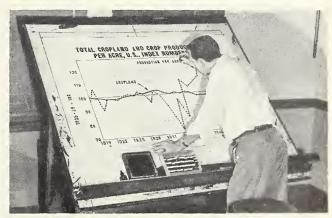
Other equipment that has been found necessary includes the chart stand and chart sticks. A rather heavy type of chart stand extending

to a height of 88 inches is generally used in California. The chart sticks are of a standard 56-inch length and are made of two pieces of wood. The bottom piece is %-inch thick and 2 inches wide, and the top piece is 3/16-inch thick, 2 inches wide, and has a slot cut in the middle for

fastening to the chart stand. Four bolts with wing nuts are used to fasten the charts between these two sticks.

To illustrate the value of the consistent use of charts over a long period of years, let us take the story of the California dairy herd-improvement program. Cow testing and the breeding of dairy cattle on the basis of dairy cow family production records have been promoted through the extensive use of charts. Dairy Extension Specialist G. E. Gordon reports that there were 46,464 dairy cows enrolled in dairy herd-improvement associations, and the average annual butterfat production of these cows was 280 pounds in 1923, that is, 25 years ago. In 1948, 176,525 cows were enrolled, and the average butterfat production of these animals was 378 pounds. The present average annual butterfat production of cows in the cow-testing associations is now 101 pounds greater than is the production of all cows in California. California now leads the States in number of cows being tested, and charts helped Gordon and the county agents put the story across.

During the 34 years that the California Extension Service has been in business, charts have been one of the most commonly used and one of the most effective visual aids.



Making a chart in the State Extension office. Stamp letters are used for the legends and figures, a line pen or colored Scotch tape for the lines.

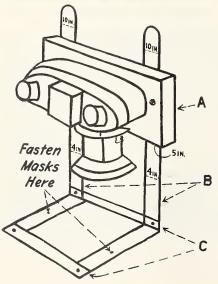
Teaching With Close-Ups

These gadgets for taking close-up pictures have made extension teaching more effective

EXTENSION workers throughout the United States have done an excellent job of taking pictures of local farm and home practices with a 35-mm. camera. Many have found the slides very effective in presenting farm problems and practices to both rural and urban people.

To supplement these local slides





with a graphic presentation of further facts and figures, I experimented with Portra plus 3 and plus 2 supplementary lenses. A special device for holding the camera and the charts to be photographed was made with the cooperation of the Essex County Agricultural School Farm Shop Department.

This gadget was successfully used with artificial lights for pictures of tables, graphs, and labor-saving equipment plans. Plus X film was used and, after developing, transferred to positive film for slides by a nearby photo finisher.

Results were excellent; and soon came the idea, why not extend this method to insects, diseases, and varieties outdoors.

Another gadget for use outdoors was made. This equipment has been used successfully for close-ups of fruit and vegetable varieties as well as insects and diseases of horticultural plants.

However, many insects, particularly in the egg stage, are so small that it is impossible to get satisfactory pictures with a Portra plus 3 lens.

From experience gained with the Portra lenses, the author made many inquiries for ways to get greater magnification.

A camera company, upon request, supplied information on "Extreme Close-up Photography with Portra Lenses." They suggested the use of two Portra lenses together and also the possibility of having a plus 10 Diopter lens made by an optician. Dr. Elmer Kerwin, a local optician interested in photography, made up a plus 10 Diopter lens to fit my Kodak 35 camera.

The gadget pictured here was made by the author to take pictures from 4 inches to 10 inches from the subject. The results have been most gratifying, and the author feels that more effective teaching was accomplished with such pictures.



CALTON O. CARTWRIGHT
Associate County Agricultural Agent,
Essex County, Mass.

Anyone having a few tools can make a similar gadget for his own camera. The materials needed include a wood block 2 by 3 by 10 inches; a 40-inch piece of ½- by ½-inch strap iron; a 22-inch piece of ½- by ½-inch strap iron; a 4-inch piece of ¾-inch strap iron; 8 flat-head ½-inch screws; 4½-inch and 3¼-inch stove bolts.

The wood block (a) is carved to fit the camera and the strap iron cut and bent to form a frame (b) which is braced at (c). The block is notched at the bottom to allow the frame to slide forward and backward. It is held in position with four short pieces of strap iron. The two $\frac{3}{6}$ -inch thick irons are drilled and tapped in the center to take $\frac{1}{4}$ -inch bolts which hold the wooden block firmly in place.

The table on page 118 shows the range and size of pictures which can be taken with this gadget and a Kodak 35 camera.

In practical use, for the two plus 3 Portra lenses (+6) and the plus 10 diopter lens only the infinity settings are needed. An F 16 or smaller lens opening should always be used to get maximum depth of field.

To take close-up pictures, one will need an adapter ring, a retaining ring, and a lens hood to fit his camera, 2 plus 3 Portra lenses, and a plus 10 diopter lens to fit the adapter and retaining rings.

A good light meter to which the proper exposure for your particular camera has been previously checked is essential. My camera requires only

(Continued on page 118)

Do Look Now . . .

Pointers on Making Mimeographed Circular Letters Attractive

GERTRUDE L. POWER, Art Editor

THE circular letter that gets results must be read, of course.

And to be read it first must attract attention—catch the eye. Sometimes that is a big task for the modest circular letter, competing as it often does with expensive commercial advertising. No matter how important its subject matter, no matter how well written it is, if it looks just like another letter and arrives with many flashy pieces of mail, it may never get a look into its message.

So the circular letter needs to be dressed up. It needs to look as though it has something to say that should not be missed. Here are some suggestions that may help bring this about:

1. ART WORK can do much to brighten letters. A good drawing, especially one that suggests the subject matter, will get attention and interest. But it should be a simple drawing. Why? Because complicated, involved drawings often suffer under the hand of the stencil cutter. They are hard to trace or cut. The same is true of some very sketchy drawings-those made up of many loose, choppy strokes. As the stencil cutter is rarely an artist, the drawing that stands the best chance of coming out well is usually made up of a few easy-tofollow lines.

2. Clean, clear STENCIL CUTTING helps. The inexperienced stencil cutter may at first cut the stencil so deep that it fuzzes and tears, or he may be too gentle and not cut deep enough for ink to go through. It takes practice. In a little while even a new stencil cutter will know just what weight on a stylus will give the best results.

In cutting drawings, the lines should stop just short of joining each other. Drawings or parts of drawings cut like islands run the risk of falling out of the stencil. If drawings clipped from newspapers and magazines are used, is is a good idea to trace them first with pencil on thin paper before transfer to the lighted mimeoscope or other tracing devise. Otherwise the type on the back of the clippings may shine through and confuse the cutting.

The stencil cutter needs and deserves a few good tools, such as a fine ball-pointed stylus, a slightly coarser one, a ruling stylus, a lettering stylus, one or more lettering guides, a stylus for screens, and at least one screen. This screen will make a flat tone which may often give snap to a weak line drawing. For most purposes a fine dot screen is best. When coarse screens are used the screen pattern is likely to get more attention than the drawing; and that, of course, is not desirable.

3. LETTERING is very important. As mentioned before, you should have at least one lettering guide—to help your stencil cutter put in captions at the tops or bottoms of your letters. These captions should be attentiongetters. Word them so they really are catchy, and be sure they are cut in strong, legible letters. Catch lines cut in feeble, whispered strokes do not have much impact. It is hard to believe they are saying anything worth while.

4. LAY-OUT is a term that commercial artists use a great deal. It merely means "arrangement"—the design of a page. Some circular letters have only one page; some have several, in which case the first page is the most important from the layout standpoint. But every page should be carefully planned; its arrangement should be good. And what is good arrangement? That may be answered by saying "A page that looks inviting and is easy to read is well arranged." But how do we get a page to look inviting? By making it orderly, which means that it will have wide margins, and that each drawing will be surrounded by a

(Continued on page 116)





Human interest combined with authentic detail and background blend themselves together to make a successful picture. Harmonious backgrounds should carry as much detail as subject.



A 23-A red Wratten filter will produce a smooth, medium-dark sky without destroying the quality of objects in the foreground. This filter is also used for semidramatic effects.



Add human interest with authentic detail if at all possible. (Note stubby pencil and bandaged finger.) Farm shed for background gives authenticity and establishes genuine farm location.

to ligh



Contrast lighting plus a Wratten G filter gives snap 114

Picture 7

GEORGE C. PACE, Specialist in Vial



High-altitude or low-angle shots are often the solution to a photographic problem. Backgrounds should be lighted if important to the substance of the picture; otherwise they should be subdued as in this picture.



ld a quality sky when the level of illumination is low.



ual Aids, Federal Extension Service



An S curve plus six flash bulbs and a small diaphragm stop leads to a pleasing composition, good lighting, and a crisp picture of milk testing.



Cross lighting is a MUST when detail or texture is all important. Backgrounds should be out of focus when texture or detail subject is utilized in foreground.

Roadside Signs Show the Way

S. D. TRUITT, County Agent, Fulton County, Ga.

ONE hundred and forty roadside signs calling attention to services offered by the county agent's office and urging farm families to cooperate in a progressive farm program have proved the value of visual aids in Fulton County, Ga.

You might say we were forced into using them. The two newspapers published in the county seat, Atlanta, cover the State and do not have a great deal of space for items of interest to farmers in our county. The same is true of the Atlanta radio stations.

Use Billboard Techniques

So, we decided that roadside signs might be helpful in keeping both farm and city people reminded of the work being done through our office. Business houses use such signs successfully.

Our first decision was to make the signs all metal—no wood in them. That would make them permanent.

We visited business concerns handling metal products and, through gifts and reduced prices, collected enough scrap metal to cut 140 signs 36 by 36 inches. From these same business concerns and others, we collected old 4-inch boiler tubes at little or no cost.

These materials were taken to the county prison metal shop and there the prisoners began work on the sign painting in spare time.

In the meantime we in the county agent's office were preparing and testing messages to go on the signs. Such things as "For Farm Information, See Your County Agent" and "Enroll Your Boys and Girls in the 4-H Club" or "Cooperate With Your County Agent in Preventing and Controlling Forest Fires" were selected.

At the same time, we asked the county engineer for permission to erect these signs along roadsides. At convenient times we also explained

the project to farmers and asked about erecting signs at suitable places on their property.

When the signs were painted—with black letters on a yellow background—and when the boiler tubes were cut into 8- and 9-foot lengths and bolted to the signs, we were ready to go! My two assistants and I took them out into the rural sections of the county and placed them where motorists could see them easily. Usually, holes were dug 2 to 3 feet deep. We tried to place each sign so that it would be on a level with the eyes of the occupants of a passing automobile.

To prevent the signs from turning in a strong wind, we inserted 4-inch bolts at the base of the boiler tubes in the shape of a cross. These prongs served as anchors.

It was no trouble at all to obtain permission to erect the signs. After we started the project and farmers saw them, several men came to us and asked us to put up some on their farms

Almost immediately visits to our office and phone calls began picking up. All this happened 3 years ago, and today we can hardly handle the many requests for help. In February 1949, 1,420 phone calls came into our office. My two assistants and I made 150 farm visits.

In our county we have 935 4-H Club members in 29 clubs. Three communities have clubs organized to boost community improvement. More than 1,000 Atlanta "city slickers" own farm land in the county or dabble in farming. In addition, several hundred Atlanta men own land in other counties and in 7 or 8 States.

In our group we feel that the roadside signs help to remind these people that the county agent's office wants to help them with their problems. And those reminders or hints on good farming and the suggestions for participating in youth and adult farm organizations are of much value, too. R

m

M

Signs in California

Highway signs, 126 in all, were erected on the highways of California in 1948. These signs are usually placed just outside the city limits of the county seat where the extension office is located so that the many new settlers in California may become aware of such sources of information.

The signs are of 18gage steel with a bakedenamel finish and are blue with gold lettering—the colors of the University of California and of the State. They are 44 inches

high and 72 inches long, large enough to be seen even at 70 miles an hour. The signs were erected by the California State Division of Highways,



and they are maintained by this same agency so that they may continue through the years to present an attractive appearance.

Motion Pictures Have Dual Role

GUY L. ROBBINS, County Agent, Routt County, Colo.

MOTION pictures are used in extension work in Routt County, Colo., for two purposes. One of these is to stimulate interest in extension programs in communities where interest is lacking. The other is to give information on subjects of interest to various groups.

An example of the use of films to stimulate interest was that made of them in the Elk River community in Routt County. The aim was to enroll all boys and girls living in the community in 4–H Club work; but both parent and child interest was lacking, and the only club had seven members. Meetings were held once a month with the seven members, the leaders, and the parents. Motion pictures were shown after the club's business meeting and before a lunch which was provided by 4–H Club mothers. The film program lasted from 1 to 2 hours.

Stimulates Interest in 4–H

The program consisted of one educational film like "Richer Range Rewards" and a travel film obtained from the railroad companies. Occasionally a war picture such as "The Stillwell Road" or an entertaining film like "Tom Sawyer and Huckleberry Finn" was used. Boys and girls tended to lose interest in motion pictures when only educational films were shown.

Results of the experiment at the end of 12 months were the enrollment of all boys and girls of 4–H Club age who lived in the community, attendance of most parents and many neighbors at the meetings, and the formation of five 4–H Clubs which hold supplementary meetings with leaders. The original seven-member lamb club had grown into a large community club. The community club was then divided into five clubs according to projects, but the community club continued to be popular.

At meetings of the project groups, leaders were lent a 35-mm, slide and

strip film projector with films and mimeographed syllabi on breeds of sheep, fitting cattle for show, judging various classes of livestock, and similar subjects. Informational movies on subjects in which the group was currently interested were shown occasionally at these meetings.

Advantages of this method are that the number of boys and girls who complete their projects is unusually high, the 4-H Club program has continuity, and the county agent meets frequently with most people in the community. Much business besides 4-H usually is transacted, and follow-up business after each meeting increases.

On the Debit Side

A disadvantage is that attending night meetings takes a county agent away from home. He could carry a program of this kind only in smaller counties. In large counties which have 4-H Club agents the program could be effective if club agents worked afternoons and evenings instead of the usual hours. A second disadvantage is that the number of entertaining films which are available free or at a cost most counties can afford is limited. Free films or films at a minimum cost would greatly help the program.

Uses made of visual aid material for giving information are many. Recently a group of young ranchers was given a short course in genetics. A high light of the course was the U.S. D. A. film, "In the Beginning." The film consisted of actual photographs of cells dividing, and it illustrated other genetic processes.

Additional educational films were used in organizing a new soil conservation district. Motion pictures made in the West, which illustrate western problems are badly needed; but those available demonstrated how a soil conservation district functioned, and they

introduced rural audiences to soil conservation thinking.

Other films were used to compare various methods of making hay, to show improved methods of irrigation, to demonstrate how to handle livestock en route to market, and to acquaint ranchers with practices which would improve their ranges. The motion picture is an excellent means of demonstrating. It enables one worker to present many demonstrations. Without films a worker can give only a few.

In addition to showing films made by others, motion films are also being taken in Routt County. Among activities filmed are local 4-H Club tours and projects, soil conservation work, livestock improvement programs, weed spraying, and anything else related to the county's agriculture. Film is furnished by soil conservation districts, 4-H Clubs, and businessmen's groups and ranchers of the county. It will be about 2 years before the first film will be ready for public showing, but when it has been completed it will be valuable for stimulating local interest in extension programs, and it will be used for advertising the county's agriculture.

County Agent John O. Stovall, Jackson County, Tex., has a homemade daylight screen in the office. The device consists of a shadow box combined with a mirror and projector. swings from the ceiling, and is lowered when needed. The sand-blasted plate glass is 24 by 36. The distance from mirror to plate glass is 14 inches. The mirror is about 18 by 24 inches. He has it fastened together with rods and a black cloth cover to make a dark room. It enables the agent to show slides in the daytime without darkening the room and he says, "It has proved to be the most valuable thing that we have ever used in carrying on our educational work."

From Blackboard to Motion Pictures

VIOLA HANSEN

Home Demonstration Agent, Linn County, Oreg.

WHEN I first started extension work I thought the blackboard was a phobia with college specialists; whether they were discussing an organization or demonstrating how to patch overalls, they had to have a blackboard. Sometimes they used it; sometimes they didn't. But after several homemakers said: "If you could only draw us a picture . ." I was convinced that I, too, would be socially obligated to pack a clumsy blackboard, a dusty eraser, and a pocketful of chalk if I wanted to reach that elusive goal called success.

The blackboard is only one of the many visual aids, however, that I have found save the tongue and yet drive home the point.

Dress Review—A Visual Aid

The largest home economics result demonstration held in Linn County, Oreg., was the reviewing of 288 cotton dresses made at cotton dress workshops. The review was held at the annual spring festival. Women modeled their dresses at the morning session and discussed them at the luncheon session. The results were similar to workshops.

Our county extension agent, O. E. Mikesell, has conducted standing result demonstrations on pasture crops. The first demonstration showed the preparation of the seedbed and sowing seed. A second demonstration was held at the same farm the following year to show the established stand of pasture and its utilization. Demonstrations of this kind have assisted in increasing seeded pastures from 5,000 acres in 1943 to 13,000 acres in 1948.

After becoming accustomed to the importance of blackboards, I was introduced to what the specialist called "kits." Like children in some

families, they varied in size from small packages to some too large to carry. One gets tired of lugging them around and keeping them in order; but, as with children, one never has any to give away and does not see how the world could go on without them. The materials in a kit must be appropriate for its intended use and suited to the community in time and place. I remember a kit we had on window treatment prepared by Mrs. Myrtle Carter, Oregon house furnishing specialist, which included samples of materials ranging from tricky cotton prints to beautiful brocades and hand blocks. The prints were in the right price range for most of the loggers' wives, as well as being appropriate for their small cottages, whereas the hand blocks and brocades took the eye of the wealthier women in the valley. The kit also included some excellent pictures cut from magazines and advertisements showing elaborate window treatment. Cartoons were included. They helped drive home a point or made an effective introductory note.

For Housing Try a Flannelgraph

Flannelgraphs are excellent for housing meetings. With a twist of the wrist you change a doorway, move a wall, and even change the entire location of the house. Flannelgraphs can be prepared in advance and to scale, thus giving a true picture of the situation. I think we all are guilty of using our blackboard and chalk and saying "It should look something like this." Perhaps our spectator's imagination isn't as powerful as ours, so his image of the situation might be somewhat distorted.

In Linn County we use the color slides in promoting 4-H Club work. The agents make a practice of taking

pictures at fairs, on home visits, at club meetings, or other special events. As a result the office has a good collection of pictures that can be shown at organization meetings or farm meetings. Children enjoy seeing themselves in pictures and feel it an honor to have their picture taken. One little dreamy 10-year-old told his mother he knew the agent liked him because she took a picture of him. The truth of the matter is, the picture is a perfect illustration of how "the calf can show the boy." Five years from now he will loathe me for it; but I have all the faith in the world that he will be a good showman, and by that time we can have a picture showing his progress which will be a perfect illustration of "we learn by doing." Slides are also used in home economics and agriculture. They are rather expensive and require skilled photography to make a picture worth showing.

The importance of visual aids cannot be overemphasized in our extension work. Anything from blackboard to motion picture will help bring a more varied, real, and meaningful experience into both teaching and learning.

na

th

spi

Cit

car

80

edt

tes

19

Wid

1

in

inv

to

field

ing

Vide

slide

scen

6 78

sion

• The formation of an audio-visual laboratory to evaluate the usefulness of films, radio programs, and telecasts for adult education was announced by Morse A. Cartwright, executive officer of the Institute of Adult Education, Teachers College, Columbia University.

The laboratory is an outgrowth of a 3-year experiment in evaluating documentary films for use in adult education. It will center its attention on the evaluation of existing program sources and the analysis of specific educational needs which are not being met by available radio, television, or film offerings.

A new audio-visual supplement to the "Adult Education Journal" published by the American Association for Adult Education was begun in January to carry the findings of the Teachers College unit. The supplement features critical reviews of new 16-millimeter film releases and all major radio and television events.



Farmers used visual aids such as this large-scale map to show their neighbors crops and soils arrangement.

TISHOMINGO County extension agents and farmers have faced the problem of how to improve soils and crop yields. They have used the original extension idea of demonstrations that portray the value of methods or practices in terms of results that speak for themselves.

Definite demonstrations conducted on 200 farms were identified and marked with painted, labeled stakes to indicate treatments. Each 4–H Club bey and adult participating in production contests is required to carry check areas, properly identified, so that the demonstration shall have educational value. These actual field tests were visited by 1,800 farmers in 19 community tours and 2 countywide tours during 1948.

The use of color slides, all taken in Tishomingo County have been invaluable aids in showing results to those unable to see the real field tests. The Tishomingo County Farm Improvement Association, serving as a local cooperative, has provided a good 35-mm, camera, together with a slide projector and screen, and has authorized extension agents to develop a complete library of color slides showing results and other local scenes having educational value. In 6 years, more than 1,000 slides have been made, covering the whole extension program.

These slides, along with charts

DEMONSTRATIONS Plus Color Slides Give Results

S. P. DENT, Associate County Agent,

Tishomingo County, Miss.

based on local information, are used in all types of meetings, frequently at farm homes. Most Tishomingo County people have seen either the real demonstrations or color slides involving those tests.

In showing the color slides at meetings, scenes taken in the local community, if available, are always used. Extension agents do very little lecturing, as they prefer to encourage the local people to do the talking about the subjects shown on the screen. Statements and questions by agents are designed chiefly to bring out the desired information from the audience.

Statements made in newspapers, letters, or lectures can be debatable; but actual field demonstrations, records, and photographs are hard to deny.

The value of lime, phosphate, other fertilizers, legumes and other treatments, methods and practices, has been demonstrated and recorded both in figures and photographs.

Visual aids used in extension programs in Tishomingo County are based on the time-honored theory that "seeing is believing." Color pictures, with figures and other supports from neighboring farmers, are second only to seeing.

Color Slides Report for Agents

GEORGE A. MULLENDORE

County Agent, Pike County, Miss.

COLOR slides of local people, organizations, and demonstrations in Pike County tell the story of Extension.

This series of slides has a script to explain each individual slide and is so arranged that one 4–H member can show the slides while another reads the script. This gives the audience the impression that local leaders are giving a report on the work of the extension agents rather than the agents. Adult leaders, Home Demonstration Council officers or members, and 4–H leaders can also "put on the show" at meetings of civic, business, or professional groups, or county officials.

The preface explains how Extension is one part of the land-grant college, the other two being the experiment stations and the campus teaching staff. Pictures of the administration building at Mississippi State College

head the series of 56 slides with pictures of the extension building, the experiment station building, and the farm following.

After the introduction, the slides cover all major enterprises of the county extension plan of work. The home demonstration agent took pictures and developed the narrative to accompany each slide, showing the Home Demonstration Council at work, demonstration gardens, improved homes, and other phases of the program. The assistant agent in home demonstration work obtained pictures and stories of girls' 4-H work. The county agents developed slides and stories of such organized farm groups as the artificial breeders' cooperative. They tell the story of work in dairying and boys' 4-H Clubs. The slides and narrative are so arranged that the pictures show a balanced program.

HORTICULTURE With Eye Appeal

R. O. MONOSMITH, Extension Ornamental Horticulturist, Mississippi

THE use of visual aids among extension workers has greatly expanded in recent years since the advent of easily processed color film adapted for slide use. This is a long step in the right direction, but there is still a need for more extended use of all forms of visual aid material among extension workers. The workers in the counties, especially, need visual aids to supplement their other teaching methods.

There are several major problems in developing a really substantial visual aids program. These are techniques, reproduction, and presentation.

Fifteen years ago, I entered the Extension Service as assistant horticulturist in Oklahoma, after 5 years of college teaching experience. It soon became apparent that college lecture technique supplemented by blackboard illustrations was not adequate for extension teaching work.

An appeal to extension specialists in other States brought a suggestion from O. I. Gregg, former landscape specialist of Michigan State College, that I have used ever since. It is a flannelgraph of a "before and after" picture of farmstead landscaping. A copy was made of this demonstration from Mr. Gregg's original, and it has been shown about 1,000 times to approximately 100,000 people in 6 States since 1934.

In addition to this specialist's use of the demonstration, patterns have been sent to five other States where copies have been made, and 10 copies have been used in Mississippi for the past 6 years. The most interesting psychological fact noticed in connection with the use of this flannelgraph is that persons give the same close attention when seeing it the second time as they did the first time they saw it.

The close attention of an audience can be intensified by the use of a strong spotlight on the picture.

The use of flannelgraphs should be expanded in extension work. This technique enables a speaker to create a realistic picture in a very short time. It has another advantage over chalk talks in that ability to draw is not necessary.

The flannelgraph consists of 3 principal parts, all easily carried: The collapsible frame, the background, and assorted pieces for the build-up—there are a total of 49 pieces in the original demonstration by Mr. Gregg. The background and build-up are all made from canton flannel, a material that has one fuzzy side and one smooth side. The painting can be done with water colors and tempera paint or with oil paints that have been thinned. The water paints are preferred because they do not add weight to the cloth.

The background is painted on the fuzzy side, and the build-up pieces are painted on the smooth side. This allows the two fuzzy sides to be placed together, holding the build-up pieces where placed on the slightly sloping surface. The possibilities for developing new ideas with this technique are innumerable.

A variation of the chalk talk is now being used by the specialist at leader-training meetings with good results. Several sheets of newsprint are thumbtacked to a drawing board that is supported by a collapsible easel. A box of colored crayons is used in drawing the pictures.

The method demonstrations given in chalk talks cover a number of subjects in horticulture. A quite successful one involves the use of photographs of homes to be landscaped, which are brought to the leader-train-

ing meeting by persons in attendance. These homes are sketched and plantings suggested (in color), benefiting all persons present. The sketches are carefully torn off the board and later assembled for use by the county extension workers in community meetings

Color slides offer the greatest possibilities for expanding the use of visual aids on a county basis and fit the personnel organization of the Extension Service to a "T."

The specialist is constantly building a library of color slides in his field. These slides are being duplicated where necessary and then built into series on specific topics. The sets are sent to the counties with accompanying script to be used at county meetings. A wide circulation of these slide sets has already been established. The county extension workers are now making color slides of local scenes to add local interest to the slide sets sent from the State office.

Ten years of experience with colorslide preparation and use prompts these suggestions: (1) Keep a 35-mm. camera loaded with color film with you at all times. (2) Get that picture; don't pass up a good chance because you are in a hurry. (3) Plan a series of pictures over a period of time; they tell the best stories. (4) Use a portrait lens attachment that will allow you to make close-up pictures at distances of 1 to 2 feet. (5) Keep only your good pictures; don't clutter your slide library with poor shots. If a picture is worth having and exposure or composition is poor, plan to shoot it again. (6) Mount pictures in glass mounts as they are made: don't wait until there are several hundred slides, as you may not mount them at all. (7) Label all pic-

(Continued on page 118)

The Best Kind of Education

NORMAN M. EBERLY, Assistant Extension Editor, Pennsylvania

A FIRM believer in visual aids, County Agent W. Irvin Galt makes good use of them, particularly 2 by 2 slides. Simple but adequate indexing and filing make his slides readily available. Through frequent use they are contributing substantially to his whole program of extension teaching in Cumberland County, Pa.

Growing at the rate of 150 a year, his file contains 1,039 slides, 810 of them in agriculture, the rest in home economics. His first slides were in black and white, but since 1942 nearly all new work and replacements have been in color. Now all but 200 of the 1.039 are in color. Frequent revisions keep the whole list alive and in working order.

More than 800 of the slides are the product of a 35 mm. camera which cost \$15 in 1941 (now \$32.50). A successful although amateur photographer, County Agent Galt manages to get 18 or 19 good transparencies from a 20-exposure film, and of these, usually 15 or more are selected for mounting.

Tripod and floodlights are used for indoor pictures, but in the open, where most of them are taken, the camera merely is held tightly against his face. As the view finder frames the composition for his right eye, Galt gently but firmly squeezes the shutter release. Few of his pictures show camera motion.

Transparencies are glass-enclosed in cardboard frames to give him slides averaging in cost 15 cents each for 36-exposure film, and 20 cents for the shorter film roll. All supplies and equipment, including projectors and screens, are budgeted at \$100 per year.

In 1948 Galt and other members of the staff working out of the Cumberland County extension office at Carlisle used slides at 65 different meetings, averaging 40 at each. Attendance averaged 35 or more persons, a total of about 2,300. This meant slides were viewed individually 92.000 times.

Thus, if the entire visual aids budget were charged to slides, they would still average less than one-ninth cent per individual viewing. By showing slides from their own files, visiting specialists nearly double the total number used.

To enlarge his permanent file, and for loan sets for special needs, Galt draws upon the slide file of State extension headquarters at the Pennsylvania State College. He reciprocates, as do other Pennsylvania agents, by permitting the State office to copy his originals, thereby making them generally available to specialists and to other counties.

This county agent makes no attempt to estimate the full value of his 2 by 2's, but "as teaching aids, we wouldn't want to be without them." The president of his extension association, Ivo V. Otto, nationally known

dairy farmer, thinks Galt's slides (he has seen most of them many times) are "the best kind of education."

"John is coming on," Galt chuckles with evident satisfaction. John F. Fogel, assistant county agent, already is sharing the picture taking; and the home demonstration agent, Anna Doerr, and the assistant, Mrs. Mary Kelso, have caught the visual aids enthusiasm.

Each slide has its card with full information typed on it. Cards are filed separately, according to subject matter, and subdivided by crop variety or section of county for quick reference. Each set (card and slide) and slot in slide file all have the same number. A master sheet lists all slides in numerial order and identifies them further as to place of origin.

In preparing illustrated talks, the agents need only the card index. In a jiffy they select the cards of slides to be used. The office secretary takes the cards, arranged in order, and in a minute or two has the slides in corresponding order in a small carrying case ready to go. The cards go, too. They contain sufficient information, thus making added written preparation unnecessary.

After they have been used, cards and slides are restored to their respective cases. Again, the whole system is in order, ready to serve at a moment's notice.



Office Secretary Louise Albright mounts and files the slides.

Do Look Now

(Continued from page 107)

frame of blank space to keep it from appearing smothered by the text.

In dressing up our circular letters we should be careful not to overdress them. Often it is better to use one good, appropriate drawing than several that are just thrown in to break up the text or fill up space. Don't be afraid of space. It is very useful. But it should be used where it is needed, and that is around the edges of a letter, and around the illustrations. Keep the text of the letter together. Big chunks of space in the text make a letter look patchy.

5. COLOR is a subject on which there are several schools of thought. However, it is generally accepted that color does have pulling power—that the average person will respond to a colored piece of reading matter more



116

quickly than to its counterpart in black and white. But here again, it is not necessary to overdress. Black with one color may be just as effective as something mimeographed in several colors, and one very simple way to get color is to use colored paper. Be careful, though, to avoid papers that are too dark to offer good contrast to the typed text. For the text holds your story. Don't make it difficult for that story to come out from the page. In other words, use colored paper, but use it in light to medium tints. Yellows, light oranges, warm light greens are good bets in colored

This does not begin to cover every point about the appearance of circular letters. But if you use good, simple drawings—and not too many of them on one page—if you have clean, clear stencil cutting, orderly arrangement, bold lettering, and color, your letters will have a better chance to catch the eye, be read, and get results.

Extension Story Told With Penny Peep Show

(Continued from page 100)

low the headline. Each picture and caption must fit into a plot strong enough to hold the attention of the viewer. The following captions are used underneath pictures illustrating the points:

"Three years ago four cans of our milk were rejected."

"This never happened to my folks."
"We agreed to keep it a secret from
Mother."

"We needed the money—something had to be done."

"Low-cost heaters provided hot water at the barn."

"Then the automatic—it saved time."

"Now we had hot water for washing udders."

"Washing produced more and cleaner milk."

"I washed the can again just before using."

"We got a dome strainer and large pads."

"Then we tightened the coolingtank cover."

"Cans to be opened on the farm had plastic hoods."

"Parchment paper was placed on full cans."

"Only once in 3 years but still a secret from Mother."

Extension dairymen at the college are thinking about presenting other stories about better dairying to farmers by using the penny arcade machine. They may even buy more machines. They feel that it is another economical device that fits into telling the extension story. The initial cost is low; probably the biggest expense is photography. For this job. a dairy specialist spent about half a day setting up the shots; and it required about 6 hours of the photographer's time for shooting the pictures and another three-quarters of a day processing and mounting. Of course, the cost will vary with the photography set-up. Where a fulltime photographer is employed and equipment is at hand to do the job, cost will not be so high. At least, we in Iowa feel that the cost is not prohibitive.

Offsetting the cost in a minor way is the penny "take" from the machine. The income from the winter tour of this particular machine has run about \$30. The main reason for charging is that a count of the viewers can be taken. Men who have observed the machine in the field say that farmers do not object to the penny cost. In fact, they think it adds to the drawing power of the machine.

It is possible that other departments will make use of this technique in their educational work. A logical place for the machines to be set up is at county fairs and other similar events.

Along with the picture story on the machine, the story is told completely in printed form. True story technique was used here because the story lent itself to that handling. The multilith job looks something like a page from a magazine.

kı

• County Agent N. H. Hunt of Frio County, Texas, is getting good results with his library of 400 color slides which he has shown to 20 different groups. Each slide is marked and dated. These slides also serve as a record of accomplishments.

Education Plus Entertainment Means 2 by 2 Slides

T. R. ROBB, Extension Entomologist, Wyoming

EDUCATION and entertainment with nothing to see would be very little of either. No modern extension worker would think of attempting to convey information to any 4-H or adult group by words alone. Appeal to the mind is constantly being made through the eye by means of pictures, films, slides, charts, diagrams, and illustrations. No extension worker questions whether or not he shall use illustrations as a means of education or entertainment, but the alert, thoughtful worker seriously questions what illustrations he shall use and how.

The advent of color film and its uses in movie films and colored slides have given the extension worker an instrument so creative and powerful that it should not and cannot be overlooked. Color has brought new sparkle, a keener realism, and a greater interest to all fields of education and is, no doubt, of equal significance in the vast field of entertainment.

Color Up the Slides

Charts, diagrams, and other illustrations used to convey information to 4–H Clubs and adult groups are excellent and indispensable—but here, we should take the hint given us by the flashy, colored signboards and the colored magazine and catalog advertisements. Paint and color up your charts and diagrams and make all other illustrations as colorful and attractive as possible.

Every experienced extension worker knows the value of demonstrations in 4-H Club and adult work, and also knows that without proper visual aids and other equipment the demonstration would be worthless as a method of education. In other words, "the success of an Extension Service worker might be measured by the visual aids he uses in his work."

Visual aids may be of many kinds and descriptions, and the extension worker must decide what type of visual aids he will need for the particular job at hand.

Slide sets, pictures, charts, diagrams, and illustrative material such as preserved specimens of insects, weeds, crop seeds, or other suitable objects will aid in presenting the subject in a visual way. The material should be so prepared that it can be explained to the group and then passed around so it can be handled. Selected and properly prepared visual aids, presented by the speaker at the proper time, will raise any average meeting to the superior class.

Watch Out for Movies

Extension specialists and agents who have access to silent or sound movie projectors, the latter with loud-speaking system and phonograph attachments for record playing, have time-consuming and expensive sets of equipment. This equipment is wonderful for entertainment but is far less effective as an educational device. There are many sound movie films available on agriculture that are classed as educational, but the entertainment and advertising features outweigh the educational value of the films.

The specialist in visual education should preview the available movie films and class them according to their educational and entertainment possibilities for the area where they will be shown. Many of the scenes on a movie film are taken thousands of miles apart and show practices and equipment that are often not suitable or available to the area. The films thus presented lack the local touch and appeal so necessary to a good educational film. For entertainment, the sound movie equipment is "tops," but

the extension worker must know the possibilities of the films he is presenting, because an educational film that turns out mostly entertainment and advertising is not good.

For educational and entertainment uses, the 2 by 2 colored slides and efficient projector rightly deserve the highest praise and consideration as the most valuable and effective visual aids accessible to extension workers. The low cost of equipment, the low cost and ease of producing slides, and ease of operation make this form of visual aid a must with extension workers. Pages could be written on the merits and different uses to which this equipment can be used to advantage.

Extension specialists and agents, realizing the great importance and effectiveness of localized visual aids in the extension program, can build up sets of colored slides of local interest on any project desired. Any extension worker who has taken and used the small colored slides has definitely proved their value and is wasting no time in building up sets of slides to use in his extension work. The 35-mm. camera, the projector and colored slides, and a good-sized beaded screen are godsends for the extension agent and "lifesavers" for the extension specialist.

A Sure-Cure Vitamin Pill

A good extension worker will by no means limit himself to the use of projection equipment, if his visual aids program is to be entirely successful. There are dozens of other useful visual aids just waiting to be brought to light and used by the resourceful worker.

Colored song slides of the 2 by 2 size are now available with the words of 4-H Club, patriotic, and favorite songs printed on the background of a beautiful scene that is suggestive of the words of the song. The colored song slides are excellent for all kinds of meetings and really give singing a boost wherever it is part of the program.

Visual aids are "sure-cure vitamin pills," and they should be used by the extension worker to keep himself and the meetings he conducts from becoming dull and lifeless. Use the "aids" regularly and enjoy a happy and successful extension life.

Horticulture With Eye Appeal

(Continued from page 114)

tures on mount mats under the glass with date, location, and subject; someone else can use them then. (8) Get a convenient slide file library holding 1,000 to 1,500 slides. You will use your slides more often and more effectively if you have such a cabinet. (9) Get a projector that is adapted to your use. A 300-watt machine is satisfactory for night meetings but not very good for daylight shows, unless a material such as blue denim is used to cover all windows. Get a 500watt machine or, better still, a 700watt projector if most meetings are held in daytime. (10) Use these powerful projectors with a beaded screen. (11) Last, but not least, limit the number of slides used for one showing to 50 slides or fewer.

The program of visual education should not stop with public lectures and method demonstrations. The phenomenal growth of magazines using many photographs in their format during recent years points to a wider use of pictures and drawings in extension circulars and bulletins. A series of illustrated guides to subjects in ornamental horticulture was started in Mississippi in 1940. This has been extremely popular and useful.

It should be stated that slides, flannelgraph, chalk talk, and illustrated bulletins are only a long step in the right direction of extension education. There is no substitute for group participation in practice techniques at result demonstration sites. The county meetings on farm home landscaping planned by the specialist consist of an all-day program wherever possible. The morning period consists of flannelgraph work, showing of color slides, then chalk talk and discussion. In the afternoon, the group goes to a farm home where a landscape planting is made according to a plan prepared by specialist, county extension agents, and farm family before the day of demonstration. The necessary shrubs and tools have been assembled.

The final outcome of the meeting held by the specialist is a series of community meetings conducted by county workers. Thus, effective use of visual aids is instrumental in bringing about an action program that gets results.

Teaching With Close-Ups

(Continued from page 106)

one-half the exposure called for by a Weston meter. A cable release is also very handy. No correction of exposure is needed, other than a close-up reading near the object.

If one follows a few simple precautions: (1) Be sure the object is not thicker than the depth of field. (2) Take pictures on sunny or cloudy bright days. (3) Always use F 16 or smaller lens opening, he can get excellent pictures of horticultural varieties, insects, and diseases. These slides can be blown up on a 40 inch screen to 20 times normal size. For example, an adult Mexican bean beetle, which is normally ½ inch long, will be 5 inches long on a 40 inch screen when photographed with a plus 10 diopter lens.

Pictures taken by the author include 40 fruit varieties, from 1 to 4 life stages of 70 insects and 27 diseases of horticultural plants. These pictures include eggs of European red mite, bud moth, pear pyslla, corn borer, and asparagus beetle, which can be clearly distinguished on the screen. After one has shown these pictures a few times he, as well as his audience, will learn to recognize these pests in the field.

Experiment by taking pictures of the same object at different distances, varied by only $\frac{1}{16}$ inch when using the +10 lens. As soon as the extreme depth and size of field, centered with your camera lens, for each supplementary lens has been determined make a cardboard mask for each field size. Your camera is now ready to take close-up colored pictures.

Anyone interested in detailed plans for making this gadget or the technique used to adapt one to their own camera may obtain them from the author

| Camera focus | Distance from adapter ring to rear of field | Supple- mental lens | Approxi- mate size of image on slide | Size of field | Depth of field |
|--------------|---|---------------------------|---|---------------|----------------------|
| | Inches | | | Inches | Inches |
| 4 feet | 101/2 | +3 | 1/5 | 5 x 7½ | 13/4 |
| 4 feet | 61/4 | (2+3's) | +1/3 | 27/s x 41/4 | 1/2 |
| Infinity | 7 | +6 | -1/3 | 31/8 x 43/4 | 3/4 |
| 4 feet | 4 | +10 | -3/5 | 15/8 x 21/2 | 1/5 |
| Infinity | 41/4 | +10 | -1/2 | 17/8 x 23/4 | 1/4 |

A Backlog of Savings Bonds

DEAN W. I. MYERS, of Cornell University, chairman of the National Agricultural Savings Bonds Committee, says: "A financial reserve in United States savings bonds is just as important a part of a well-managed farm or ranch as are land, livestock, and machinery. Farm and ranch people need to have their financial reserves in the safest possible form and where they will always be readily available. United States savings bonds meet these requirements.

Every owner of a United States savings bond has a special stake in good management of the financial affairs of the country. Widespread holding of savings bonds helps insure this. Investment in savings bonds by farmers is an important part in spreading the debt. The farmer buying bonds becomes a shareholder in the Government; and he also receives his due portion of the interest on the national debt, now amounting to more than 5 billion dollars a year. By owning savings bonds he builds himself a backlog against emergencies such as crop failure, accident, sickness, and falling markets and puts himself in financial position to take advantage of future opportunities.

One Slide Worth More Than Page of Notes

J. B. TURNER, County Agricultural Agent, Fayette County, Ill.

W HAT I considered my most effective job of teaching with visual aids was done 4 years ago last February. I had a request from the local county AAA committee to give a field trip or a demonstration to 80 township committeemen on the importance of terraces, grassways, contour farming, and strip cropping. I remembered that 2 years previous to that we had conducted a demonstration on farm planning out on a farm with this same group. The weather man was very much against us, as it was cold and snowing. Under these adverse weather conditions it was impossible to hold the attention of such a large group, and we felt that the meeting wasn't satisfactory.

After consulting with the county AAA committee, we decided to hold the meeting inside and use slides to show these important conservation Then the next morning a light snow had fallen on our farms. By noon the following day the sun had melted just enough of the snow to make the rows of stubbles and grasses show through. The chairman and I drove over the county and took a number of photographs of examples which they wished to have presented. Some pictures demonstrated good practices; others demonstrated poor practices which could be corrected. Some of these pictures, demonstrations, good and poor, were taken on the township committeemen's farms. The pictures were made into 2 by 2 positive slides. At the educational meeting these slides were shown to the committemen. All the slides illustrating poor soil conservation practices were shown in reverse, so that no one would recognize his own or his neighbor's farm. All pictures showing good practices were thrown on the screen the right way.

At the beginning of the meeting we announced that all pictures that would be shown were taken on local farms and some were taken without their knowledge on their own farms. They were all very attentive, and we felt that they all learned more by this method than any other. In 1 hour's time we were able to show them more about conditions than we could have done in a full day hauling all 80 of them around to the different farms.

I consider good local pictures more interesting and instructive than commercial pictures. I feel that slides are more convenient and versatile than film strips. One good slide of pasture improvement showing vegetation might be used in a discussion in any one of the series of slides demonstrating soil fertilization, soil conservation, fertilization, or pasture improvement. If this picture happened to be in a film strip, it could only be used on one subject which the film strip was demonstrating.

Local movies, because of their expense, are almost out of the question, as far as the local county extension people are concerned. Slides offer more opportunity for discussion, as one can leave a slide on the screen as long as it is desired, which is a distinct advantage. Slides are the most economical forms of visual aids to make locally. If one picture of a set becomes obsolete, it can be removed from a set and a new, improved picture used to take its place. If one forms a habit of carrying a camera along on tours through the county, many pictures can be taken, without losing much time, of good extension practices, which might be useful at a later date in a meeting. I would rather have a colored slide showing a good extension practice than a whole page of notes on the same subject. I consider that a good set of slides on a subject is surpassed only by a field demonstration in very favorable conditions. A field demonstration can only be seen at a certain given time or season, whereas a set of slides of the same demonstration can be reviewed time after time, after the field demonstration material is past presentation.

In short, a field demonstration of the effects of different fertilizers on growing wheat can only be shown just before wheat harvest. Colored slides of these differences can be shown any season of the year.

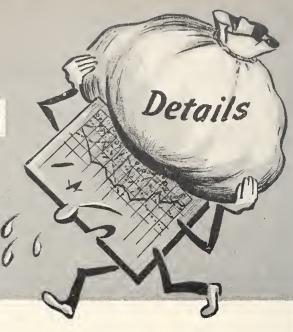
My library of slides, which I have been accumulating the last 13 years, contains pictures on many subjects. The biggest task and disadvantage I have experienced is to keep all these subjects cataloged so I can readily find them.



A Good Shipping Box

Mrs. Alta Smith, agricultural extension staff worker at the University of Minnesota, is using one of the new shipping boxes to send out a slide set to a county extension agent. The box has solved one of the problems many State extension services have had since visual aids have been used. It has a sliding cover with a holder for the address card or Government frank slip. The box is put out in two sizes. The standard box will accommodate 60 slides, whereas the small one holds 32. Both sizes weigh under the 4-pound limit for franked mail, when filled with glass-mounted slides. Space for a script to accompany the set has been provided under the cover, and a large rubber band fastened at the back of the box is an added safety factor in mailing.

Don't Overload Your Visual Aids



• AN ILLUSTRATION should usually emphasize or clarify one point only.

Eliminate the nonessentials unless they add harmony!

• A COVER PAGE should pull attention to a publication and suggest its content.

Put the story inside—not on the cover!

• A PAGE LAYOUT should look inviting and be easy to read.

Make the arrangement orderly. Don't squeeze!

• A CHART should present factual high lights so that they are quickly understood and remembered.

Use several simple charts rather than one complicated one.

• A POSTER should put across a message at a glance. It will fail if it tries to tell too much.

Don't overload!